INTRODUCTION

With the induction of anesthesia, compensatory mechanisms are lost and hypotension will develop if volume deficits arte not appropriately corrected prior to the time of surgery. Hemodynamic instability can be avoided by correcting known fluid losses, replacing ongoing losses, and providing adequate maintenance fluid therapy preoperatively. In addition to measured blood loss during surgery, open abdominal surgeries are associated with continued third-space losses due not only to the preexisting conditions but also to exposed bowel during the time of surgery. [1,2]

Fluid and electrolyte management are crucial to the care of the surgical patient.[3] Changes in both fluid volume and electrolyte composition occur preoperatively, intraoperatively, and postoperatively, as well as in response to trauma and sepsis.[4,5,6]

However, many surgical patients have volume and/or electrolyte abnormalities associated with their surgical disease. Preoperative evaluation of a patient's volume status and pre-existing electrolyte abnormalities are an important part of preoperative assessment and care. [7,8]

Fluid management of the pediatric surgical patient is a critical element in the care of infants and children who are sensitive to small degrees of dehydration. Complex surgical procedures are often associated with rapid changes in fluid requirements necessitating frequent assessment and modifications of fluid therapy. In the operating room, the fluid requirements may

rapidly change during the conduct of anaesthesia and surgery, coincident with changes in temperature, metabolism and fluid volume shifts. The trauma, haemorrhage and tissue exposure associated with surgery shifts body fluids between compartments, necessitating fluid replacement with solutions that compensate for energy, water, protein and electrolyte losses.

The anaesthesiologist must determine the nature and magnitude of these losses and be alert both to the obvious fluid losses of serum and urine and to hidden fluid losses, which can occur, with insensible loss and third space loss of fluid.[9]

Replacing fluid losses with balanced salt solution leads to less fluid retention and a natriuretic response is induced. In most patients, Ringer's lactate solution is a reasonable choice as the replacement fluid and is less expensive than other balanced electrolyte solutions. Normal saline with its higher sodium content may be preferable in children at risk of cerebral edema.[10]

Volume deficits should be considered in patients presenting with gastrointestinal surgical diseases losses known as third space or nonfunctional losses that occur with gastrointestinal obstruction, peritoneal or bowel inflammation, and severe soft tissue infections.[11,12]

Close monitoring is imperative. Resuscitation should be guided by the reversal of the signs of volume deficit such as restoration of vital signs, maintenance of adequate urine output (1/2 to 1 mL/kg per hour in an adult), and correction of base deficit. Patients who fail to correct their volume deficit, those with

impaired renal function, and the elderly should be considered for more intense monitoring in an ICU setting for measurement of central venous pressure or cardiac output.[13,14,15]

Administration of IV crystalloid fluid is a cornerstone of perioperative care [16]. Many patients still receive fluid according to rigid conventional programs, but several outcome studies have recently shown that individual optimization might be a better choice. Hospital stay can be shortened by goal directed fluid therapy, which means that the cardiac output response to repeated small doses of a colloid fluid is tested in the individual patient. Intravascular fluid administration is considered optimal before surgery when no increase in cardiac output is obtained with additional fluid. Volume kinetics, a branch of pharmacokinetics, has more fully clarified when and how distribution and slow elimination of a crystalloid enhance the volume effect of infused fluid. [17,18]

AIM OF THE WORK

Is to study perioperative fluid therapy, methods of management and its effect during major operation.